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NPIC/TDS/D-1152-67
22 November 1967

Declass Review by NIMA/DOD

MEMORANDUM FOR THE RECORD

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SUBJECT: Monitor Trip [] on NPIC Project []

1. The technical monitor and [] TID visited [] on 14 and 15 November 1967 in regard to NPIC Project [] (High Precision Stereo Comparator).

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2. The project manager, [] appears to be doing a good job coordinating the many tasks of this project. Indications are that the project is on schedule and will remain within the allocated funds. Most of the major problem areas in the 49 tasks of this project have been overcome; the most serious problem areas remaining are in vibration isolation, main frame support and optical resolution. The project status as of 27 October 1967 is: Schedule - 74% complete; Budget - 69% expended; Actual Performance - 73% of the program is completed. The budget spent and projected through 31 December 1967 is 89.9%. Increased drafting effort may raise this to 95%.

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3. One of the problem areas covered during the visit was vibration. At the beginning of this project the technical monitor provided [] the vibration analysis performed [] in 1960 and the computations [] requested additional vibration information and NPIC/SS requested [] to run new tests [] received 9-12 months lead time on this type of test. NPIC/SS then contracted [] to do this work and it was accomplished during October 1967. The new tests indicate that there are vibration frequencies as low as 2 cps in the proposed site and that they cause displacements of 1 1/4μ in all three axes [] had designed the main frame support and [] had recommended the isolation mounts based on the [] tests which indicate a natural frequency of 16 cps [] will have to engineer new mounts to take care of the displacements and low frequencies disclosed by the new tests. [] in turn will have to design a new main frame support based on [] forthcoming isolators. The basic problem lies in the fact that pneumatic isolator mounts tend to amplify vibration frequencies of 2 cps instead of dampening as occurs from 3 to 4 cps upward [] will attempt to take care of the added costs without a change in scope. []

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4. The industrial designer presented six sketches of possible final appearance of the instrument. He has two more to complete [] the customer will make a selection and add comments. The industrial designer will prepare three sketches with the new ideas, two new sketches will evolve from the three, and the final product will be a large colored briefing board of the proposed instrument.

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5. The work on the film platen and hold down is progressing. Present tests require hold down times of 3 seconds for heavy film, 3 to 5 seconds for most film, and less than 20 seconds for 1.5 mil film.

6. The air bearing stages and the laser interferometer were demonstrated. Repeatability of measurement was very good. Counters and all electronic equipment functioned very well. They have encountered some extra costs through maintenance of the breadboard and test equipment. A couple of the boards from Data Technology had to be replaced at a cost []

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7. [] covered the progress on the optical subcontract. He has informed [] that addition information will be required on the resolution over the entire field and not just on axis and at the edges []

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[] will visit [] for a week starting 4 December 1967 [] will get information on the effects on resolution by modifying the color temperature specifications. He will also investigate the possibility of improving the resolution by relaxing the percent of field to be corrected (Ex. If 90% as called for in the specifications is relaxed to 80%, will the attainable resolution be increased?) [] is scheduled to visit []

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[] the first week of January 1968, at that time [] should have all the information they need for a proposal.

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8. Test are presently in progress on the air bearing stages. Test have been completed on the Y axis and the X axis will be tested this week. The tests provided the following data on the Y axis: least count-0.1μ, static test-less than 1/2μ deflection over the 20 inch stage. In the acceleration and deceleration tests there was 0μ of pitch and 1.3μ of yaw deflection over the entire Y travel (20 inches). Oscillation has been eliminated in the stage drive system by inserting sapphire inserts in the orifices of the air bearings.

9. Preliminary work is being carried on for methods of film cooling. The final design will have to wait until we get the specific light source [] Since there is about a 400 time area difference between the 10X and the 200X magnification, a servo type air jet might have to be used. This of course would create a noise problem at 200X.

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10. [] requested permission to omit the December monthly report and include this information in the final report since there are only 4 working days in January on this contract. The technical monitor stated this was agreeable if [] concurred. [] presented the following plan for delivery of items and the final report.

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A. January 9, 1968

- (1) All [] detailed drawings.
- (2) All [] detailed drawings.
- (3) Computer Program Instructions.
- (4) Fixed Price Bid for Phase 2.
- (5) Briefing Aids.
- (6) Optical glass procurement specifications.
- (7) All (except optical glass) procurement drawings.
- (8) Completion of mockup.

B. February 9, 1968

- (1) Final Report.
- (2) Optical Design Specifications and Parameters.
- (3) Specifications of Stereo Comparator as a whole.
- (4) Deliver mockup and breadboard equipment.

C. February 15, 1968

- (1) Optical Detailed Design Drawings.

D. April 15, 1968

- (1) Contract termination of Phase I.

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CENTER ROUTING SLIP

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FROM		T D S		DATE	21 November 67
TO		INITIALS	DATE	REMARKS	
DIR					
DEP/DIR					
EXEC/DIR					
TECH ADV					
SPECIAL ASST.					
CH/SS	X				
ASST FOR P&M					
ASST FOR OPS					
ASST FOR PA					
ASST FOR TD					
CH/CSD				<p><i>Looks like a meeting with interested parties is in order.</i></p> <p><i>w/p</i></p> 	
CH/IPD					
CH/PD					
CH/PSD					
CH/TID					
CH/IAS/DDI					
CH/DIA/XX-4					
CH/DIA/AP-IP					
CH/SPAD					
LO/CGS/CIA					
LO/NSA				<p>Approved For Release 2002/08/28 : CIA-RDP78B04747A000200030110-5</p>	

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